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09/741,048	12/21/2000	Yoshihiro Yamaguchi	0879-0295P	5515

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EXAMINER	
HERNANDEZ, NELSON D	

ART UNIT	PAPER NUMBER
2622	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary	Application No.	Applicant(s)	
	09/741,048	YAMAGUCHI, YOSHIHIRO	
	Examiner	Art Unit	
	Nelson D. Hernández	2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 April 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *9,19,25,28,30-34,48,50,53 and 55* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *9,19,25,28,30-34,48,50,53 and 55* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *21 December 2000* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The Examiner acknowledges the amended claims filed on April 24, 2008. **Claims 9, 25 and 28** have been amended. **Claims 1-8, 10-18, 20-24, 26, 27, 29, 35-47, 49, 51, 52, 54, and 56-59** have been canceled.

Response to Arguments

2. Applicant's arguments with respect to **claims 9 and 25** have been considered but are moot in view of the new grounds of rejection.

Claim Objections

3. **Claim 9** is objected to because of the following informalities: the word "chromacities" should be written as "chromaticities". Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 9, 19, 48 and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishikawa, Patent 5,296,945, Belucci et al., Patent 5,913,542 B1

and Yamamoto et al., JP 06-123917 A in view of Sakamoto, US Patent 6,333,993 B1 and further in view of Jaspers, US Patent 5,208,661.

Regarding claim 9, Nishikawa discloses an image processing method in which image data for an identification photo of a person (Fig. 2: 22) is obtained from image data of the person, said image processing method comprising the steps of: abstracting a skin pigmentation area (performed by detection point setting unit in fig. 2: 52) from an image of the person; calculating skin pigmentation correction values according to colors of the abstracted skin pigmentation area and a predetermined skin pigmentation correction target value (this is performed by the comparator in fig. 2: 58); correcting the colors of the skin pigmentation area according to the calculated skin pigmentation correction values (stored in standard color memory in fig. 2: 56; the look-up table (Fig. 2: 60) is used to correct the colors based on the result of the comparator) (Col. 3, line 66 – col. 4, line 13; col. 6, lines 40-56; col. 9, lines 42-65)

Nishikawa does not explicitly disclose detecting a background area in said image data; abstracting a person area in said image data based on the background area; comparing a size of the person area in said image data with a predetermined size; and changing the size of the image based on the size of the person area so that the size of the person area is the predetermined size, wherein the step of detecting the background area comprises: comparing a plurality of areas of the image data with a reference background area; determining each of the plurality of areas to be a part of the background area based on the comparison, and wherein the reference background area includes at least one comer area of the image data; and that the skin pigmentation

correction values are calculated by applying non-linear correction functions based on a luminance Y and chromaticities Cb and Cr of the abstracted skin pigmentation area.

However, However, Belucci teaches a system for producing ID cards wherein the system separates the image area from the background area from the subject area (Belucci teaches automatically normalizing or eliminating the background of the image to be captured and also teaches separating the background from the subject image area (see col. 4, lines 8-19 and col. 5, lines 15-36), doing so inherently teaches detecting the background area, since the background has to be detected prior to normalizing, having the color changed, deleting or to separate the background from the subject image) so as to compress the image data for the identification card (Col. 4, lines 8-19), as part of the compression algorithm, the background is changed to a predetermined color (normalized or eliminated), also teaches resizing the size of the image separated of said subject so as to fit the area required for the photo of the ID card (Col. 5, lines 15-49). The system in Belucci separates the image area from the background area so as to compress the image data for the identification card (Belucci, Col. 4, lines 8-19), as part of the compression algorithm, the system changes the background to a predetermined color (normalized or eliminated), also has a software to automatically resize the images so as to fit the required area for the photo (Belucci, Col. 5, lines 15-49).

Therefore, taking the combined teaching of Nishikawa in view of Belucci as a whole, it would have been obvious to one of ordinary skilled in the art at the time the invention was made to modify the identification photo system by detecting a background

area in said image data; abstracting a person area in said image data based on the background area. The motivation to do so would have been to help the identification photo system to compress the image of the person only since the background is not that relevant as suggested by Belucci (Col. 4, lines 8-19) and to improve the identification photo system by using only the information necessary to create the identification photo reducing the cost of printing since the background is eliminated and to speed up the process.

The combined teaching of Nishikawa in view of Belucci fails to teach comparing a size of the person area in said image data with a predetermined size; and changing the size of the image based on the size of the person area so that the size of the person area is the predetermined size, wherein the step of detecting the background area comprises: comparing a plurality of areas of the image data with a reference background area; determining each of the plurality of areas to be a part of the background area based on the comparison, wherein the reference background area includes at least one comer area of the image data; and that the skin pigmentation correction values are calculated by applying non-linear correction functions based on a luminance Y and chromaticities Cb and Cr of the abstracted skin pigmentation area.

However, Yamamoto teaches an identification photo system (See figs. 1 and 3) that obtains image data for an identification photo of a person (See fig. 5: 50a) from image data of the person, said identification photo system comprising: an automatic correcting (Fig. 1: 33) device that automatically corrects the image data of the person, wherein said automatic correcting abstracts a person area (See Translation, page 4, ¶

0014), compares a size of the person area in said image data with a predetermined size, and changes the size of an image based on the size of the person area so that the size of the person area is the predetermined size needed for an identification document (this suggest a predetermined size within a frame on a print area according to identification photo) (See translation, page 2, ¶ 0006 – page 3, ¶ 0007; page 4, ¶ 0014 and ¶ 0019 – page 5, ¶ 0020). Comparing a size of the person area in said image data with a predetermined size needed for an identification document, and changing the size of an image based on the size of the person area so that the size of the person area is the predetermined size of an identification document is advantageous because it would produce in more detail the photograph with which the face image became specification size about the equipment, which produces the photograph used for certification, such as a passport and a license.

Therefore, taking the combined teaching of Nishikawa in view of Belucci and further in view of Yamamoto et al. as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Nishikawa and Belucci by comparing a size of the person area in said image data with a predetermined size; and changing the size of the image based on the size of the person area so that the size of the person area is the predetermined size. The motivation to do so would have been to produce in more detail the photograph with which the face image became specification size about the equipment, which produces the photograph used for certification as suggested by Yamamoto (See Translation, page 2, ¶ 0001).

The combined teaching of Nishikawa in view of Belucci and further in view of Yamamoto et al. fails to teach that the step of detecting the background area comprises comparing a plurality of areas of the image data with a reference background area; determining each of the plurality of areas to be a part of the background area based on the comparison, and wherein the reference background area includes at least one comer area of the image data; and that the skin pigmentation correction values are calculated by applying non-linear correction functions based on a luminance Y and chromaticities Cb and Cr of the abstracted skin pigmentation area.

However, Sakamoto discloses the concept of separating the a target image from the image background by comparing the a plurality of areas (See fig. 13) of the image data with a reference background area (the surroundings are assigned with a value representing the probability that certain area is a background area as shown in fig. 13; it is shown that the corner value is believed to have the highest probability of being background. The rest of the image is compared with the corners as background reference values since the corners are the most probable to be background in the image); and determining each of the plurality of areas to be a part of the background area based on the comparison (Col. 4, line 65 – col. 5, line 28; col. 47, line 5 – col. 50, line 24), and wherein the reference background area includes at least one comer area of the image data (the corners are used for the comparison since the corners are believed to have the higher probability of being background) (Col. 4, line 65 – col. 5, line 28; col. 47, line 5 – col. 50, line 24).

Therefore, taking the combined teaching of Nishikawa and Belucci in view of Yamamoto et al. and further in view of Sakamoto as a whole, it would have been obvious to one of an ordinary skill in the art at the time the invention was made to modify Nishikawa, Belucci and Yamamoto et al. to have the step of detecting the background area comparing a plurality of areas of the image data with a reference background area; and determining each of the plurality of areas to be a part of the background area based on the comparison, and wherein the reference background area includes at least one comer area of the image data. The motivation to do so would have been to allow detection and abstracting of the image data using the original image, thus having a second image with a particular color stored in memory would not be required to be used as a reference.

The combined teaching of Nishikawa and Belucci in view of Yamamoto et al. and further in view of Sakamoto fails to teach that the skin pigmentation correction values are calculated by applying non-linear correction functions based on a luminance Y and chromaticities Cb and Cr of the abstracted skin pigmentation area.

However, Jaspers discloses the concept of correcting skin color hue of an image by using a variable gamma correction arrangement (C as shown in fig. 5), wherein the gamma correction value may be implemented as an exponential curve (Col. 5, lines 12-34; this teaches the use of a non-linear correction function). Jaspers further discloses that the gamma correction is being applied to the luminance Y and chromaticities Cb and Cr of the image signals (Col. 4, line 10 – col. 5, line 34) (Col. 3, line59 – col. 6, lines 19).

Therefore, taking the combined teaching of Nishikawa, Belucci and Yamamoto et al. in view of Sakamoto and further in view of Jaspers as a whole, after acknowledging the advantages of correcting the image signals of an image by applying a gamma correction function to the luminance and chromaticity values to compensate for color shifts, particularly for the disturbing color shifts of the skin color hues to a considerable extent and in a very simple manner as suggested in the Jaspers reference (Col. 2, lines 32-43) to modify the teaching of Nishikawa, Belucci, Yamamoto et al. and Sakamoto to have the skin pigmentation correction values calculated by applying non-linear correction functions based on a luminance Y and chromaticities Cb and Cr of the abstracted skin pigmentation area. The motivation to do so would have been to compensate for color shifts, particularly for the disturbing color shifts of the skin color hues to a considerable extent and in a very simple manner as suggested in the Jaspers reference (Col. 2, lines 32-43).

Regarding claim 19, the combined teaching of Nishikawa, Belucci and Yamamoto et al. in view of Sakamoto and further in view of Jaspers as discussed and analyzed in claim 9 teaches that the step of abstracting the person area the image data comprises determining the person area as being an area of the image data other than the background area (Belucci teaches determining the person area by teaching determining the background area to be removed; col. 4, lines 8-19 and col. 5, lines 15-36).

Regarding claim 48, the combined teaching of Nishikawa, Belucci and Yamamoto et al. in view of Sakamoto and further in view of Jaspers as applied to claim

9 teaches allowing a user to select the predetermined size from a plurality of predetermined person area sizes prior to changing the size of the image, wherein in the step of changing the size of the image comprises changing the size of the image based on the selected predetermined size (See Yamamoto, Translation, pages 2-3, ¶ 0007; see also page 2, ¶0002). Grounds for rejecting claim 9 apply here.

Regarding claim 53, limitations have been discussed and analyzed in claim 9.

6. Claims 25, 27, 28, 50 and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Belucci, Patent 5,913,542 B1 and Yamamoto et al., JP 06-123917 A in view of Sakamoto, US Patent 6,333,993 B1 and further in view of Hata, US Patent 6,067,377.

Regarding claim 25, claim 25 is written as a Markush type claim by using the expression "...based on any or more of a comparison of the each area with a reference background area, a size of the each area, or an average coordinate of the pixels of the each area" (see lines 10-11), meeting one species of a genus family anticipates the claimed subject matter. "A generic claim cannot be allowed to an applicant if the prior art discloses a species falling within the claimed genus." The species in that case will anticipate the genus. In re Slayter, 276 F.2d 408, 411, 125 USPQ 345, 347 (CCPA 1960); In re Gosteli, 872 F.2d 1008, 10 USPQ2d 1614 (Fed. Cir. 1989).

Belucci discloses a method for processing an image, comprising: determining a background area of an image (Belucci discloses that the background is normalize or deleted when processing the image, by teaching this, Belucci discloses determining the

background area since it has to be detected prior to deletion; col. 4, lines 7-19 and col. 5, lines 15-36); determining a person area of the image as an area of the image other than the background area of the image (Belucci discloses presenting the image of the person only by deleting the background area, by doing this, Belucci discloses that the person area is other that the background area; col. 4, lines 8-19 and col. 5, lines 15-36); and sizing the image such that a size of person area of the image is a predetermined person area size (Belucci teaches resizing the size of the image separated of said subject so as to fit the area required for the photo of the ID card (Col. 4, lines 8-19; col. 5, lines 15-49).

Belucci does not explicitly disclose sizing the image based on a size of the person area of the image such that the size of the person area is a predetermined person area size and separating the image into a plurality of areas; determining whether or not the each area of the plurality of areas belongs in the background area based on any one or more of a comparison of the each area with a reference background area, a size of the each area, or an average coordinate of the pixels of the each area; and that the reference background area includes at least one corner of the image and wherein the step of determining whether or not the each area of the plurality of areas belongs in the background area based on the comparison of the each area with the reference background area includes determining that the each area belongs in the background area if a difference between an average luminance value of the pixels of the each area and an average luminance value of the reference background area is within a predetermined luminance difference threshold and a difference between an average

chromaticity value of the pixels of the each area and an average chromaticity value of the reference background area is within a predetermined chromaticity difference threshold, or a difference between an average red (R) value of the pixels of the each area and an average R value of the reference background area is within a predetermined R difference threshold, a difference between an average green (G) value of the pixels of the each area and an average G value of the reference background area is within a predetermined G difference threshold and a difference between an average blue (B) value of the pixels of the each area and an average B value of the reference background area is within a predetermined B difference threshold; and that said step of separating the image into the plurality of areas comprises: comparing properties of adjoining pixels of the image; and determining that two adjoining pixels belong in the same area if the compared properties of the two adjoining pixels are less than predetermined thresholds for each property compared.

However, Yamamoto teaches an identification photo system (See figs. 1 and 3) that obtains image data for an identification photo of a person (See fig. 5: 50a) from image data of the person, said identification photo system comprising: an automatic correcting (Fig. 1: 33) device that automatically corrects the image data of the person, wherein said automatic correcting abstracts a person area (See Translation, page 4, ¶ 0014), compares a size of the person area in said image data with a predetermined size, and changes the size of an image based on the size of the person area so that the size of the person area is the predetermined size (See translation, page 2, ¶ 0006 – page 3, ¶ 0007; page 4, ¶ 0014 and ¶ 0019 – page 5, ¶ 0020). Comparing a size of the

person area in said image data with a predetermined size, and changing the size of an image based on the size of the person area so that the size of the person area is the predetermined size is advantageous because it would produce in more detail the photograph with which the face image became specification size about the equipment, which produces the photograph used for certification, such as a passport and a license.

Therefore, taking the combined teaching of Belucci in view of Yamamoto as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Belucci by sizing the image based on a size of the person area of the image such that the size of the person area is a predetermined person area size. The motivation to do so would have been to produce in more detail the photograph with which the face image became specification size about the equipment, which produces the photograph used for certification as suggested by Yamamoto (See Translation, page 2, ¶ 0001).

The combined teaching of Belucci in view of Yamamoto fails to teach separating the image into a plurality of areas; and determining whether or not the each area of the plurality of areas belongs in the background area based on any one or more of a comparison of the each area with a reference background area, a size of the each area, or an average coordinate of the pixels of the each area; and that the reference background area includes at least one corner of the image and wherein the step of determining whether or not the each area of the plurality of areas belongs in the background area based on the comparison of the each area with the reference background area includes determining that the each area belongs in the background

area if a difference between an average luminance value of the pixels of the each area and an average luminance value of the reference background area is within a predetermined luminance difference threshold and a difference between an average chromaticity value of the pixels of the each area and an average chromaticity value of the reference background area is within a predetermined chromaticity difference threshold, or a difference between an average red (R) value of the pixels of the each area and an average R value of the reference background area is within a predetermined R difference threshold, a difference between an average green (G) value of the pixels of the each area and an average G value of the reference background area is within a predetermined G difference threshold and a difference between an average blue (B) value of the pixels of the each area and an average B value of the reference background area is within a predetermined B difference threshold; and that said step of separating the image into the plurality of areas comprises: comparing properties of adjoining pixels of the image; and determining that two adjoining pixels belong in the same area if the compared properties of the two adjoining pixels are less than predetermined thresholds for each property compared.

However, Sakamoto discloses the concept of separating the a target image from the image background by comparing the a plurality of areas (See fig. 13) of the image data with a reference background area (the surroundings are assigned with a value representing the probability that certain area is a background area as shown in fig. 13; it is shown that the corner value is believed to have the highest probability of being background. The rest of the image is compared with the corners as background

reference values since the corners are the most probable to be background in the image); and determining each of the plurality of areas to be a part of the background area based on the comparison (Col. 4, line 65 – col. 5, line 28; col. 47, line 5 – col. 50, line 24), and wherein the reference background area includes at least one comer area of the image data (the corners are used for the comparison since the corners are believed to have the higher probability of being background) (Col. 4, line 65 – col. 5, line 28; col. 47, line 5 – col. 50, line 24). Sakamoto also discloses a modification of the embodiment (See col. 54, line 37 – col. 55, line 32; ; see also col. 55, line 35 – col. 56, line 64) that comparing of the each area with the reference background area includes determining that the each area belongs in the background area if a difference between an average red (R), an average green (G) and an average blue (B) value of the of the reference background area (R, G, B) value of the pixels of the each of the reference background area is within a predetermined R difference threshold, G difference threshold, and B difference threshold (Col. 4, line 65 – col. 5, line 28; col. 47, line 5 – col. 50, line 24; col. 54, line 37 – col. 55, line 32; see also col. 55, line 35 – col. 56, line 64).

Therefore, taking the combined teaching of Belucci in view of Yamamoto et al. and further in view of Sakamoto as a whole, it would have been obvious to one of an ordinary skill in the art at the time the invention was made to modify Belucci and Yamamoto et al. to separate the image into a plurality of areas; and determining whether or not the each area of the plurality of areas belongs in the background area based on any one or more of a comparison of the each area with a reference

background area, a size of the each area, or an average coordinate of the pixels of the each area; and that the reference background area includes at least one corner of the image and wherein the step of determining whether or not the each area of the plurality of areas belongs in the background area based on the comparison of the each area with the reference background area includes determining that the each area belongs in the background area if a difference between an average red (R) value of the pixels of the each area and an average R value of the reference background area is within a predetermined R difference threshold, a difference between an average green (G) value of the pixels of the each area and an average G value of the reference background area is within a predetermined G difference threshold and a difference between an average blue (B) value of the pixels of the each area and an average B value of the reference background area is within a predetermined B difference threshold. The motivation to do so would have been to allow detection and abstracting of the image data using the original image, thus having a second image with a particular color stored in memory would not be required to be used as a reference and to accurately separate the background from the target image by using multiple values as oppose to using only the brightness, thus even when the average brightness of the background is similar to the average brightness of the target, the target can be differentiated from the background based on the intensity of at least one of the separate colors.

The combined teaching of Belucci in view of Yamamoto et al. and further in view of Sakamoto fails to teach that said step of separating the image into the plurality of areas comprises: comparing properties of adjoining pixels of the image; and

determining that two adjoining pixels belong in the same area if the compared properties of the two adjoining pixels are less than predetermined thresholds for each property compared.

However, Hata discloses a method of detecting the background on an image, wherein a particular pixel is compared with an adjacent pixel (each adjacent pixel in the eight directions) to determine based on a difference between the sum of the colors of said particular pixel with the sum of colors of the adjacent pixel and if the difference is larger than a particular value, it is determined that one of the two pixels is a background pixel (Col. 1, lines 56-64; col. 8, lines 34-67; col. 9, line 1 – col. 10, line 2).

Therefore, taking the combined teaching of Belucci and Yamamoto et al. in view of Sakamoto and further in view of Hata as a whole, after acknowledging the advantages of comparing the pixels to adjacent pixels to determine whether a pixel belong to a background area that would allow to accurately determine the location of the background area in an image as taught in Hata, it would have been obvious to one of an ordinary skill in the art at the time the invention was made to modify the teaching of Belucci, Yamamoto et al. and Sakamoto to compare properties of adjoining pixels of the image and determining that two adjoining pixels belong in the same area if the compared properties of the two adjoining pixels are less than predetermined thresholds for each property compared. The motivation to do so would have been to improve the background detection of the image by more accurately detecting whether the pixels belong to the background in a pixel by pixel basis and would also prevent changes of

hue from occurring around image edge portions as suggested by Hata (col. 1, line 51 – col. 2, line 8; col. 9, line 1 – col. 10, line 2)

Regarding claim 27, limitations can be found in claim 25.

Regarding claim 28, limitations can be found in claim 25.

Regarding claim 50, the combined teaching of Belucci and Yamamoto et al. in view of Sakamoto and further in view of Hata as discussed and analyzed in claim 25 teaches allowing a user to select the predetermined person area size from a plurality of predetermined person area sizes prior to sizing the image, wherein in the step of sizing the image comprises sizing the image based on the selected predetermined person area size (See Yamamoto et al., Translation, pages 2-3, ¶ 0007; see also page 2, ¶0002). Grounds for rejecting claim 25 apply here.

Regarding claim 55, limitations can be found in claim 25.

7. Claims 30 are 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Belucci, Patent 5,913,542 B1, Yamamoto et al., JP 06-123917 A and Sakamoto, US Patent 6,333,993 B1 in view of Hata, US Patent 6,067,377 and further in view of Daly, US Patent 6,173,069 B1.

Regarding claim 30, the combined teaching of Belucci and Yamamoto et al. in view of Sakamoto and further in view of Hata fails to teach that the step of determining whether or not the each area of the plurality of areas belongs in the background area based on the size of the each area includes determining that the each area belongs in

the background area if the size of the each is greater than a predetermined maximum area or less than a predetermined minimum area.

However, Daly teaches a method of detecting the face of a person in an image, wherein the face area belongs to and circle area with a radius larger than the radius of a circle (See fig. 3: 50) but less than the radius of a larger circle (See fig. 3: 52) (See col. 7, line 37 – col. 8, line 15; col. 8, line 16 – col. 9, line 45) (By teaching this Daly teaches that the areas outside the circle 52 and inside the circle 50 are considered background).

Therefore, taking the combined teaching of Belucci, Yamamoto et al. and Sakamoto in view of Hata and further in view of Daly as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the identification photo system by determining whether or not the each area of the plurality of areas belongs in the background area based on the size of the each area includes determining that the each area belongs in the background area if the size of the each is greater than a predetermined maximum area or less than a predetermined minimum area. The motivation to do so would have been to accelerate the process of detecting facial and background areas since said facial and background areas are identified using larger regions as opposed to a pixel-by-pixel comparison.

Regarding claim 31, the combined teaching of Belucci, Yamamoto et al. and Sakamoto in view of Hata and further in view of Daly as applied to claim 30 teaches that the step of determining whether or not the each area of the plurality of areas belongs in the background area based on the average coordinate of the pixels of the each area includes determining that the each area belongs in the background area if the average

coordinate of the pixels of the each area is outside of a predetermined oval or circle with the center of the oval or the circle at the center of the image (See Daly, circle in the center of the image as shown in fig. 3 and oval in the center of the image as shown in fig. 7) (See Daly, col. 7, line 37 – col. 8, line 15; col. 8, line 16 – col. 9, line 45).

8. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Belucci, Patent 5,913,542 B1, Yamamoto et al., JP 06-123917 A and Sakamoto, US Patent 6,333,993 B1 in view of Hata, US Patent 6,067,377 and further in view of O'Brill, Patent 5,937,081.

Regarding claim 32, the combined teaching of Belucci and Yamamoto et al. in view of Sakamoto and further in view of Hata fails to teach abstracting a facial area based on the person area.

However, O'Brill teaches an image composition system wherein a camera takes an image of a person (Fig. 1: 12) and the composition system separates the image of the person's head from the body and the background (See flow chart in fig. 6) so as to change the person's clothes (i.e. shirt and pants) according to the body type of said person (Col. 5, line 49 – col. 6, line 47).

Therefore, taking the combined teaching of Belucci, Yamamoto et al. and Sakamoto in view of Hata and further in view of O'Brill as a whole, it would have been obvious to one of ordinary skilled in the art at the time the invention was made to modify the identification photo system by abstracting a facial area based on the person area. The motivation to do so would have been to avoid having to require a person to have a

specific type of clothes to be photograph with the system, facilitating the system to combine the subject with different accessory items as suggested by O'Brill (Col. 1, lines 56-61).

9. Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Belucci, Patent 5,913,542 B1, Yamamoto et al., JP 06-123917 A, Sakamoto, US Patent 6,333,993 B1 and Hata, US Patent 6,067,377 in view of O'Brill, Patent 5,937,081 and further in view of Fujimoto, US Patent 6,035,074.

Regarding claim 33, the combined teaching of Belucci, Yamamoto et al. and Sakamoto in view of Hata and further in view of O'Brill fails to teach that the step of abstracting the facial area based on the person area comprises determining that an area of the person area is the facial area when a color of the of the area is determined to be a skin pigmentation color.

However, Fujimoto discloses an image processing apparatus in communication with a camera or a scanner (Col. 2, lines 59-65; col. 6, lines 3-9; col. 7, lines 24-31), said camera comprising an external input controlling section (Fig. 3: 15) for the camera or scanner, wherein said image processing apparatus extract the face of a subject in the image using face recognition by comparing the colors in the whole input image (See figs. 6-10) with skin colors stored in a RAM (Fig. 3: 11) or ROM (Fig. 3: 12), the image processing apparatus also comprises a frame forming section (Fig. 4: 11-7) for forming a frame having a size such that the face image pickup area can be embraced in the frame in response to the designation of the face image pickup area; and a face image

cutting section (Fig. 4: 11-4) for cutting out an area enclosed in the frame, wherein the recognized face image is cut out in accordance with the size of the face image; Fujimoto also discloses that the method can be applied to ID photography (See col. 4, lines 12-24; col. 12, line 65 – col. 13, line 3) (Col. 1, line 64 – col. 2, line 29; col. 3, line 26 – col. 5, line 23; col. 6, lines 3-53; col. 7, line 24 – col. 8, line 4; col. 8, line 46 – col. 9, line 64; col. 12, line 49 – col. 13, line 3).

Therefore, taking the combined teaching of Belucci, Yamamoto, Sakamoto and Hata in view of O'Brill and further in view of Fujimoto as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the identification photo system by determining that an area of the person area is the facial area when a color of the of the area is determined to be a skin pigmentation color. The motivation to do so would have been to help the identification photo system to create ID photography without taking a photograph of the single human object as suggested by Fujimoto (Col. 4, lines 19-23).

10. Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Belucci, Patent 5,913,542 B1, Yamamoto et al., JP 06-123917 A, Sakamoto, US Patent 6,333,993 B1, Hata, US Patent 6,067,377 and O'Brill, Patent 5,937,081 in view of Fujimoto, US Patent 6,035,074 and further in view of Nishikawa, Patent 5,296,945.

Regarding claim 34, the combined teaching of Belucci, Yamamoto, Sakamoto and Hata in view of O'Brill and further in view of Fujimoto fails to teach correcting the facial area to a target skin pigmentation color.

However, Nishikawa discloses an identification photo system (Fig. 2) that obtains image data for an identification photo of a person (Fig. 2: 22) from image data of the person, said identification photo system comprising an automatic correcting device (Fig. 2) that automatically corrects the image data of the person (Col. 3, line 66 – col. 4, line 13; col. 6, lines 40-56; col. 9, lines 42-65), wherein the automatic correcting device corrects at least one of density, color balance, luminance and saturation of an image of the person (Col. 5, lines 56-65; col. 6, lines 47-66). Nishikawa also teaches that the automatic correcting device comprises: a skin pigmentation area abstracting device (detection point setting unit in fig. 2: 52) that abstracts a skin pigmentation area from the image; a skin pigmentation correction value calculating device (comparator in fig. 2: 58) that calculates skin pigmentation correction values according to colors of the skin pigmentation area abstracted by said skin pigmentation area abstracting device and a predetermined skin pigmentation correction target value (stored in standard color memory in fig. 2: 56); and a color correcting device (look-up table in fig. 2: 60) that

corrects the colors of the skin pigmentation area according to the skin pigmentation correction values calculated by said skin pigmentation correction value calculating device (the look-up table is used to correct the colors based on the result of the comparator) (Col. 3, line 66 – col. 4, line 13; col. 5, line 66 – col. 6, line 7).

Therefore, taking the combined teaching of Belucci, Yamamoto, Sakamoto, Hata and O'Brill in view of Fujimoto and further in view of Nishikawa as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the identification photo system by correcting the facial area to a target skin pigmentation color. The motivation to do so would have been to provide a video ID photo printing apparatus and a complexion converting apparatus capable of stabilizing picture quality on a print or a monitor without being influenced by an illumination light source, controls of control means of a video image pickup apparatus, and printing characteristics of a video printer and without requiring very difficult controlling operations of video image pickup equipment as suggested by Nishikawa (Col. 2, lines 5-13).

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nelson D. Hernández whose telephone number is (571)272-7311. The examiner can normally be reached on 9:00 A.M. to 5:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lin Ye can be reached on (571) 272-7372. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Nelson D. Hernández
Examiner
Art Unit 2622

NDHH
June 18, 2008

/Lin Ye/

Supervisory Patent Examiner, Art Unit 2622